

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
FWCC Request for Declaratory Ruling on)	
Partial-Band Licensing of Earth)	IB Docket No. 00-203
Stations in the Fixed-Satellite Service)	RM-9649
That Share Terrestrial Spectrum)	
)	
FWCC Petition for Rulemaking to Set)	
Loading Standards for Earth Stations)	
In the Fixed-Satellite Service that)	
Share Terrestrial Spectrum)	
)	
Onsat Petition for Declaratory Order that)	
Blanket Licensing Pursuant to Rule 25.115 (c))	SAT-PDR-19990910-00091
is Available for Very Small Aperture)	
Terminal Satellite Network Operations at C-)	
Band)	
)	
Onsat Petition for Waiver of Rule 25.212(d))	
to the Extent Necessary to Permit Routine)	
Licensing of 3.7 Meter Transmit and Receive)	
Stations at C-Band)	
)	
<i>Ex parte</i> Letter Concerning Deployment of)	
Geostationary Orbit FSS Earth Stations in the)	
Shared Portion of the Ka-band)	

SECOND REPORT AND ORDER

Adopted: January 23, 2002

Released: January 30, 2002

By the Commission:

I. INTRODUCTION

1. In this Order we terminate our consideration of the issues raised by the Fixed

Wireless Communications Coalition (FWCC).¹ We conclude that the record in this proceeding provides an insufficient basis to impose the FWCC proposed conditions upon Fixed-Satellite Service (FSS) earth stations in bands that are shared on a co-primary basis with Fixed Service (FS) operations.²

II. BACKGROUND

2. *The FWCC Petition.* On May 5, 1999, FWCC filed a request for a declaratory ruling urging the Commission to, among other things, impose various conditions on FSS earth stations in bands that are shared on a co-primary basis with FS operations. Specifically, FWCC's Petition references the following bands: 3700-4200, 5925-6425, and 6425-7125 MHz; and 10.7-11.7, 12.7-13.25, 17.7-19.7, and 27.5-29.5 GHz.³ FWCC's Petition states that it seeks to maximize efficient use of the radio spectrum for both satellite and point-to-point terrestrial fixed operations.⁴

3. FWCC avers that, while Parts 25 and 101 of the Commission's rules provide for sharing by the FSS and FS on a co-primary basis in certain radio spectrum bands, in practice, sharing has not occurred on an equitable basis.⁵ FWCC contends that in fact band sharing has been on terms disadvantageous to the FS.⁶ FWCC offers two reasons for its argument that satellite earth station operators receive preferential access to shared spectrum. First, FWCC notes that the Commission licenses earth stations for the entire allocated band with no loading requirements, while point-to-point terrestrial operations are limited to frequencies actually needed and are subject to stringent spectrum efficiency requirements.⁷ Second, FWCC asserts that because the Commission licenses earth stations for the full 360° of azimuths, earth stations can deny coordination to terrestrial stations even in directions in which the earth station is not currently operating.⁸

4. Accordingly, FWCC requests a declaratory ruling to require an FSS operator to demonstrate "actual need" for the spectrum requested at the time of licensing.⁹ Specifically, FWCC requests that, where the FSS earth station is using spectrum that is shared with point-to-point terrestrial services, the Commission should change its policy from authorizing an FSS earth

¹ Request for Declaratory Ruling and Petition for Rulemaking of the Fixed Wireless Communications Coalition, dated May 5, 1999 (FWCC Petition).

² We defer to a future Order the petition for reconsideration and the request contained in the ex parte letter filed by Hughes Network Systems (Hughes) regarding blanket- or streamlined licensing of user earth terminals in the 18 and 29 GHz bands. See Hughes Petition for Partial Reconsideration in Doc. No. IB 98-172 and Hughes Ex Parte Filing, dated May 4, 2000.

³ FWCC Petition at 3.

⁴ *Id.* at i.

⁵ *Id.*

⁶ FWCC Petition at 2-4.

⁷ *Id.* at 3, 5.

⁸ *Id.*

⁹ FWCC Petition at ii.

station to use the entire frequency band, to requiring it to use no more than twice the amount of spectrum for which it is able to demonstrate an “actual need.”¹⁰ FWCC also petitions, pursuant to section 1.401 of the Commission’s rules, for amendments to Part 25 of the Commission’s rules, to require that an FSS earth station licensed for more than minimal amounts of spectrum that is shared with an FS operator must meet minimum loading standards.¹¹ Further, FWCC proposes to require an FSS earth station to accept interference from a new terrestrial facility on the same basis as the FSS earth station accepted interference in previous coordinations.¹² FWCC claims that the objective of these changes is to adopt spectrum management standards that would achieve in practice the “co-equal” sharing specified in Parts 25 and 101 of the Commission’s rules.¹³

5. **The NPRM.** On October 24, 2000, the Commission issued the *FWCC/Onsat/Hughes NPRM* to address, among other things, the issues discussed above. Specifically, the *FWCC/Onsat/Hughes NPRM* included proposed rules to address the concerns of the FS community, and sought comment on whether the evolving requirements of both satellite and terrestrial systems necessitate a further revision of our policies and rules to ensure efficient and equitable use of the radio spectrum in bands shared on a co-primary basis by the FSS and FS.¹⁴ We also sought comment on the extent of the FS and FSS sharing problem, and proposed rules to address the loading and interference coordination issues.¹⁵

6. Although the *FWCC/Onsat/Hughes NPRM* denied FWCC’s request for a declaratory ruling and FWCC’s parallel request to amend section 25.130 to limit the amount of spectrum licensed to an FSS earth station to no more than twice the amount for which the licensee demonstrates an “actual need,”¹⁶ the Commission incorporated into the proposed rules the related concept of a “demonstrated use.”¹⁷ The *FWCC/Onsat/Hughes NPRM* stated that this requirement for “demonstrated use” would be triggered by an FSS operator’s denial of an FS applicant’s request to coordinate spectrum.¹⁸ Specifically, the *FWCC/Onsat/Hughes NPRM*

¹⁰ FWCC’s petition also includes a parallel request for a rule that would require FSS earth station applicants to show demonstrated need for the spectrum they seek. FWCC Petition at Appendix C.

¹¹ FWCC Petition at ii.

¹² *Id.*

¹³ *Id.* at 2.

¹⁴ *FWCC Request for Declaratory ruling on Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service that Share Terrestrial Spectrum, FWCC Petition for Rulemaking to Set Loading Standards for Earth Stations in the fixed-Satellite Service that Share Terrestrial Spectrum, Onsat Petition for Declaratory Order that Blanket Licensing Pursuant to Rule 25.115(c) is Available for Very Small Aperture Terminal Satellite Network Operations in C-Band, Onsat Petition for Waiver of Rule 25.212(d) to the Extent Necessary to Permit Routine Licensing of 3.7 Meter Transmit and Receive Stations at C-Band, Ex parte Letter Concerning Deployment of Geostationary Orbit FSS Earth Stations in the Shared Portion of the Ka-Band, Notice of Proposed Rule Making, IB Docket No. 00-203, FCC 00-369(rel. Oct. 24, 2000) para. 7 (FWCC/Onsat/Hughes NPRM).*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

proposed to amend section 25.203 to indicate that, if an FSS earth station that has been licensed to operate in C- or Ku-band shared frequencies for 24 months or longer denies an FS applicant's request to coordinate spectrum, the FSS earth station must demonstrate to the frequency coordinator that it is using, has recently used, or has plans to use the requested spectrum in the near future.¹⁹ The *FWCC/Onsat/Hughes NPRM* noted that, if the FSS earth station licensee is unable to demonstrate use, the FS station could not be denied coordination.²⁰ The *FWCC/Onsat/Hughes NPRM* proposed that, as a result, the FSS earth station could not cause unacceptable interference to, and would not receive any protection from, the FS station in that spectrum in the future.²¹ The *FWCC/Onsat/Hughes NPRM* further proposed to exempt from the rule those FSS earth stations that are licensed for 40 MHz or less of bandwidth in each of the uplink and downlink directions.²² It also proposed to amend section 101.141 to shorten the loading period for FS licensees in the C- and Ku-bands from 30 to 24 months.²³ The *FWCC/Onsat/Hughes NPRM* reasoned that modification of the Part 25 and 101 rules in this manner would give both the FSS and FS licensees a comparable period of time in which to put their spectrum to use before their spectrum became susceptible to re-licensing to others.²⁴ The *FWCC/Onsat/Hughes NPRM* requested comment on whether these changes to Part 25 and 101 should apply to other bands where the FSS and FS share spectrum on a co-primary basis.²⁵

7. In addition, the *FWCC/Onsat/Hughes NPRM* proposed to amend Parts 25 and 101 to state that an FSS earth station or FS licensee that accepts a particular interference analysis model in order to coordinate successfully the location of its station must also accept use of the same model in subsequent coordinations.²⁶ According to the *FWCC/Onsat/Hughes NPRM*, if a C- or Ku-band FSS earth station licensee, during coordination, accepts a level of interference along a set of azimuths recognized to be below normally permissible interference objectives, the licensee may not subsequently claim protection from interference from future FS applicants on those same frequencies within that same set of azimuths.²⁷ The *FWCC/Onsat/Hughes NPRM* proposed to make the changes to Parts 25 and 101 applicable to all frequency bands where the services share a primary service allocation.²⁸

8. Finally, the *FWCC/Onsat/Hughes NPRM* invited comment on the Hughes proposal to deploy, without individual site-by-site licensing, geostationary satellite orbit FSS

¹⁹ *Id.* at para. 8.

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.* at para. 9.

²⁷ *Id.*

²⁸ *Id.*

earth stations in the shared portion of the Ka-band.²⁹

9. We received 29 comments and 35 reply comments to the *FWCC/Onsat/Hughes NPRM*.³⁰ Numerous satellite and earth station licensees, users of these services, and industry associations representing the satellite industry oppose both the FWCC Petition and the Commission's proposals. The Fixed Point-to-Point Section of the Wireless Communications Division of the Telecommunications Industry Association (TIA FS/WCD) filed reply comments supporting FWCC's requests. Satellite industry participants were generally supportive of the requests for blanket licensing contained in the Hughes ex parte letter. On May 23, 2001 the Commission adopted the *FWCC First Report and Order* to address the issues raised by Onsat.³¹ We now address the issues raised by FWCC. We will address the issues raised by Hughes in a future Order.

III. DISCUSSION

10. We terminate our consideration of the issues raised by FWCC because we conclude that the record is not sufficiently developed to permit us to issue rules to address them.

11. Specifically, we find that the record lacks necessary information on how to achieve more equitable sharing of the spectrum. As previously noted, the *FWCC/Onsat/Hughes NPRM* rejected FWCC's specific proposals to achieve more equitable sharing.³² Instead, the *FWCC/Onsat/Hughes NPRM* proposed in essence to achieve greater equity in the sharing of spectrum by amending section 25.203 to indicate that, under certain circumstances an FSS earth station licensee must demonstrate that it is using, has recently used, or has plans to use the requested spectrum in the near future.³³ Both the FS and the FSS commenters, however, rejected the proposed rule. The FWCC rejected it because it believed that such procedures may result in disputes over an earth station's "demonstrated use" of frequencies at the worst possible time, that is, when an FS applicant is attempting to finalize coordination and begin operations. The FWCC also rejected the proposal in the *FWCC/Onsat/Hughes NPRM* because it would not allow an earth station to reserve specific frequencies to use in the event of satellite or transponder failure.³⁴ The FSS commenters rejected the proposed rule for other reasons, including that there was no data to back up the claims of problems; that the proposed rules would impose burdensome administrative requirements while decreasing flexibility; and that the proposed rules constrain the provision of emergency services, and provide no relief in the event of satellite failure.³⁵ The comments of the FWCC include additional proposals for how to achieve more

²⁹ *Id.* at ¶15.

³⁰ Appendix A of this *FWCC Second Report and Order* lists the entities commenting in this proceeding.

³¹ *FWCC First Report and Order* at para. .

³² *FWCC/Onsat/Hughes NPRM* at para. 40.

³³ *Id.* at para. 53.

³⁴ FWCC Petition at 2, 8-9.

³⁵ Astrolink at 4, 6; BTNA at 3, 4; Catalina at 6; GE Americom at 3-6; Hughes at 6-7; Megastar at 2-3; SIC at 2, 5-6, 14, 17; TRW at 2; and Virtual Geosat at ii.

equitable sharing of the spectrum.³⁶ We agree, however, with the reply comments of the FSS operators,³⁷ and conclude that these counter-proposals are unsuitable for substantially the same reasons that we articulated in the *FWCC/Onsat/Hughes NPRM* for denying the FWCC Petition.³⁸ That is, FWCC's proposals fail to fully and properly take into account the fact that the FSS and FS services have significantly different requirements for access to the electromagnetic spectrum in order to meet their business needs, and these needs must be recognized and accommodated in the context of the entire interference environment, in any rules that we adopt to address the perceived "inequities."³⁹ Thus, we find that this record presents us with no effective solution that addresses the concerns raised in this proceeding.

12. Our inability to provide the relief FWCC requests stems from the absence of evidence of the extent to which our current rules have resulted in injury to the terrestrial fixed service community. We specifically sought comment on the extent of the FS and FSS sharing problem.⁴⁰ We asked for comment on the breadth and nature of sharing difficulties, including the number of cases in which FS and FSS have experienced sharing difficulties, whether the sharing difficulties have occurred in particular band segments, and identification of the specific circumstances.⁴¹ Few parties submitted comments in response to this request. In its comments, FWCC notes that one member reported "a specific instance of an earth station operator that accepted a 94 dB case into the earth station, and subsequently refused a net 5 dB case into the same earth station."⁴² FWCC further notes that although discrepancies of this extreme magnitude are unusual, cases of earth stations waiving interference, and subsequently refusing coordination at lower levels of interference are "commonplace."⁴³ FWCC states in its reply comments that it has extensive anecdotal evidence from fixed service operators whose links were precluded by earth stations, but that no one tabulates these data.⁴⁴ Popkin, a frequency coordinator, cites six coordination cases in which he was involved, but provided details of only one.⁴⁵ In that one case, Popkin states that after nine earth station applicants did not provide an explanation for accepting a missed interference objective, the terrestrial fixed service providers filed Petitions to Deny the applications. Popkin reports that as a result of the petition, the earth station providers modified their applications to provide the desired level of protection on future paths.⁴⁶ Without citing any specific incident, Comsearch states that, based upon its experience over the past several years, only a small percentage of FS coordinations in the 6 and 11 GHz

³⁶ FWCC at 2-3, 5.

³⁷ GE Americom reply at 3-4; SIC reply at 17-19; Sprint reply at 1-2; Teledesic at 5; TRW at 8;

³⁸ *FWCC/Onsat/Hughes NPRM* at paras. 38-41, 74-75;

³⁹ *Id.*

⁴⁰ *Id.* at para. 7.

⁴¹ *Id.* at para. 30.

⁴² FWCC Petition at 16.

⁴³ *Id.*

⁴⁴ FWCC reply at 6.

⁴⁵ Popkin reply at 4-5.

⁴⁶ *Id.*

bands have been unsuccessful because of interference with FSS stations.⁴⁷

13. We find that, while there may indeed be instances where coordination is being inappropriately denied to fixed service station applicants, a single documented case and references to “anecdotal evidence” is an insufficient record upon which to base the extensive relief sought by FWCC. Rather than establishing rules that may not address the concerns raised in this proceeding, and may only substitute one set of concerns for another, we terminate our consideration of these issues in this docket. We, however, emphasize that we expect license applicants, licensees, and the frequency coordinators who work with them to cooperate fully with each other in the spirit and letter of the Commission’s rules, bearing in mind the co-primary nature of the Fixed and Fixed-Satellite Services in these bands. If any applicant believes that he or she is being treated contrary to the Commission’s rules in his or her proper pursuit of a Commission license, he or she should immediately bring the matter to the attention of Commission. Moreover, as always, we are open to new proposals or approaches that could effectively address concerns that have been raised regarding the equitable sharing of the spectrum. We, therefore, do not foreclose the possibility that changes to our rules could improve the sharing environment and licensing processes for both the FS and FSS services.

IV. ORDERING CLAUSES

14. IT IS ORDERED, that pursuant to Sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 157(a), 303(c), 303(f), 303(g), and 303(r), this Second Report and Order is hereby ADOPTED.

15. IT IS FURTHER ORDERED that the Hughes Petition for Partial Reconsideration in Doc. No. IB 98-172, shall be addressed in a future Order.

IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this Second Report and Order to the Chief, Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

⁴⁷ Comsearch comments at 3.

APPENDIX A: COMMENTS ON FWCC/HUGHES PROCEEDINGComments:

Astrolink International LLC (Astrolink)
BT North America Inc (BTNA)
Catalina Transmission Corp. (Catalina)
Comsearch
Fixed Wireless Communications Coalition (FWCC)
GE American Communications, Inc. (GE Americom)
Home Box Office and Turner Broadcasting System, Inc. (HBO & TBS)
Hughes Network Systems, Hughes Communications Inc., & Hughes Communications Galaxy, Inc (Hughes)
JFL Communications, Inc. (JFL)
Lockheed Martin Global Telecommunications, Inc. (LMGT)
Loral Space and Communications, Ltd. (Loral)
Megastar, Inc. (Megastar)
National Cable Television Association (NCTA)
National Public Radio, Inc. (NPR)
PanAmSat Corporation (PanAmSat)
Pinnacle Telecom Group (Pinnacle)
Satellite Industry Association, Satellite Broadcasting and Communications Association, World Teleport Association, and Aeronautical Industries Association of America (SIC)
SkyBridge, LLC. (SkyBridge)
Sprint Communications Company, LP (Sprint)
Teledesic LLC (Teledesic)
Telesat Canada
TRW, Inc. (TRW)
Virtual Geosatellite, LLC (Virtual Geosat)
The Walt Disney Company (Walt Disney)
Winstar Communications, Inc. (Winstar)

Late Filed Comments:

Arrowhead Space & Telecommunications Inc. (Arrowhead)
National Association of Broadcasters (NAB)
University of Southern California Distance Education Network (USC)

Reply comments:

Association of American Railroads (AAR)
A.G. Edwards & Sons, Inc. (AGEdwards)
Astrolink International LLC (Astrolink)
Bonneville Satellite Company (Bonneville)
Chevron Products Company (Chevron)

Comsearch
DMC Stratex Networks, Inc. (DMC)
Fixed Wireless Communications Coalition (FWCC)
Ford Motor Company (Ford)
GE American Communications, Inc. (GE Americom)
General Communication, Inc. (GCI)
Global VSAT Forum (GVF)
Globecom Systems (GSI)
Harris Corporation – Microwave Systems Division (Harris)
Home Box Office and Turner Broadcasting System, Inc. (HBO & TBS)
Hughes Network Systems, Hughes Communications Inc., & Hughes Communications Galaxy,
Inc (Hughes)
National Broadcasting Company, Inc. (NBC)
National Spectrum Managers Association (NSMA)
Pinzone Engineering Group, Inc. (Pinzone)
David B. Popkin (Popkin)
Radio Netherlands
Satellite Industry Association, Satellite Broadcasting and Communications Association, World
Teleport Association, and Aeronautical Industries Association of America (SIC)
SkyBridge LLC. (SkyBridge)
Sola Communications Inc. (Sola)
Sprint Communications Company, LP (Sprint)
Starz Encore Group, LLC (Starz Encore)
Telecommunications Industry Association (TIA FS/WCD)
Teledesic, LLC (Teledesic)
Telesat Canada
Titan Wireless, Inc. (Titan)
Tosco Corporation (Tosco)
TRW, Inc. (TRW)
United Telecom Council (UTC)
Viacom, Inc (Viacom)
Winstar Communications, Inc. (Winstar)